US Army Corps of Engineers

Huntington District Formerly Used Defense Sites Newsletter

Summer 2001 Edition

Public Awareness: The Final Step Dolly Sods Ordnance Removal Project

Background

Dolly Sods is located within the Monongahela National Forest in the counties of Grant, Tucker and Randolph, West Virginia. It is a rugged mountainous area set atop the Allegheny Mountains at the 4100-foot level. For management purposes it has been broken down into two areas: Dolly Sods Wilderness Area, 10,215 acres, and Dolly Sods North, 6,169 acres. The Dolly Sods Wilderness Area was created by an act of Congress in 1975 to preserve and protect the area with special opportunities for solitude, primitive recreation and other scientific, educational, scenic and historical values. Management efforts within the Wilderness Area focus on allowing the forces of nature to reclaim the area, returning it to a natural-appearing state.

...an inexpensive, environmentally sound approach that will have the greatest impact on sustained

The area was farmed in the early 1800's, logged in the late 1800's until 1913, and in 1930 the Forest Service bought the land. Military maneuvering and training were performed in the Dolly Sods area during World War II from 1943 to 1944 and the land was returned to the Forest Service in 1950. During the military maneuvers, both live and inert 81mm, 60mm, and 4.2-inch mortars were fired. Records of the targets and firing points were either destroyed or never recorded.

View of Dolly Sods area

Public Impact

It is estimated that between 45,000 and 76,000 people visit Dolly Sods annually. The remoteness, back-to-nature experience, and limited human influences attract the adventurous hiker, mountain biker, hunter, berry picker, and spelunker. The environment, which is pristine in appearance, does not give the visitor the perception that dangerous ordnance exists. The actual amount of ordnance is undetermined but the risk is illustrated by the sporadic but continuous discovery. Through the years, several removal efforts have successfully removed ordnance from areas seeing the most use, particularly the Red Creek Valley area, higher-density camp sites, and trails. Last July, three pieces of ordnance were found in the vicinity of Red Creek, south of Breath Mountain. A recreational visitor to the area found two of the pieces and ordnance removal personnel found the third piece during a closer inspection of the area.

Situation

All designated and maintained trails, plus their adjoining, known campsites were cleared of ordnance to the depth and width designated during a removal project conducted May 97 through November 98. This remedial action was the most feasible based on the influencing factors of cost, environmental impact, and reduction of public risk, and has significantly reduced the amount of ordnance posing a hazard to the public in the most widely-used areas. However, due to the following current conditions and facts, this remedial action could not, and was not expected to, negate the risk entirely.

Unexploded ordnance

- The environment has changed over the course of 50 years.
- The movement of the military forces are random in nature and undocumented
- Vast amount of acreage
- A grid by grid search of the entire area would not reduce the risk to zero and could prove to be as expensive as it is environmentally damaging
- Campsites are not permanently marked and there is little restriction upon where camping can occur
- Throughout the North Area, there exist numerous trails that are undocumented but are used regularly
- Hunters and hikers are apt to roam without regard to known trails
- Heavy rains could dislodge ordnance which, coupled with the mountain slopes, will cause migration

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Public Awareness: The Final Step (Continued) (Dolly Sods Ordnance Removal Project)

leared sites were chosen based on speculation of past military maneuvers and locations of targets and firing position

The Final Step

In 1990, the first step of a 10-step process (see flow chart to the right), began by confirming that the area fulfills the requirements of the Defense Environmental Restoration Plan–Formerly Used Defense Sites, DERP-FUDS. During the past 10 years all but one of the steps, "Project Completion" has been accomplished to some degree. The removal projects on and around the most used areas have been completed, but it cannot be said that Dolly Sods is free of ordnance. The "Next Step" is a Public Awareness and Organizational Action Plan that when instituted will act as a perpetual removal action requiring the partnership between the public and involved agencies. It is an inexpensive, environmentally sound approach that will have the greatest impact on sustained public safety.

The objective of the plan is to provide a process to communicate the possible hazard of unexploded ordnance to the public and all stakeholders and the organizational procedures associated with the management of these hazards. To be effective, the community awareness program must be gauged according to the public's need for information and its interest and willingness to participate in the remedial process.

An effective and efficient Public Awareness and Organizational Action Plan will:

i) Make the public aware without alarming
ii) Develop an understood, accessible, and easily used process for ordnance avoidance and reporting.
iii) Ensure that stakeholders understand that personal and property safety are the paramount concerns during HTRW and OE response actions.
iv) Serve the public's information needs by keeping local residents, officials, and other stakeholders informed in a timely manner of HTRW/OE response actions. Post findings.
v) Foster and maintain a climate of understandings and trust between stakeholders.

The Plan is in the final stages and is expected to be published and in use this year. A strong partnership between the U.S. Forest Service and the Huntington District, Corps of Engineers is ensuring that the plan makes sense, is useable and sustainable, and reaches out to all users and stakeholders of Dolly Sods.

Notification Process

i) Do not touch, move, or dig near or around a suspicious item
ii) Walk away in the direction you came
iii) Identify the area on a map or by terrain feature
iv) Report immediately to:
   (1) Potomac Ranger District (304) 257-4488
   (2) Seneca Rocks Visitor Center (304) 567-2827
   (3) West Virginia State Police (304) 257-1411

Thumbs Up To Facilitated Partnering By WVOW Team

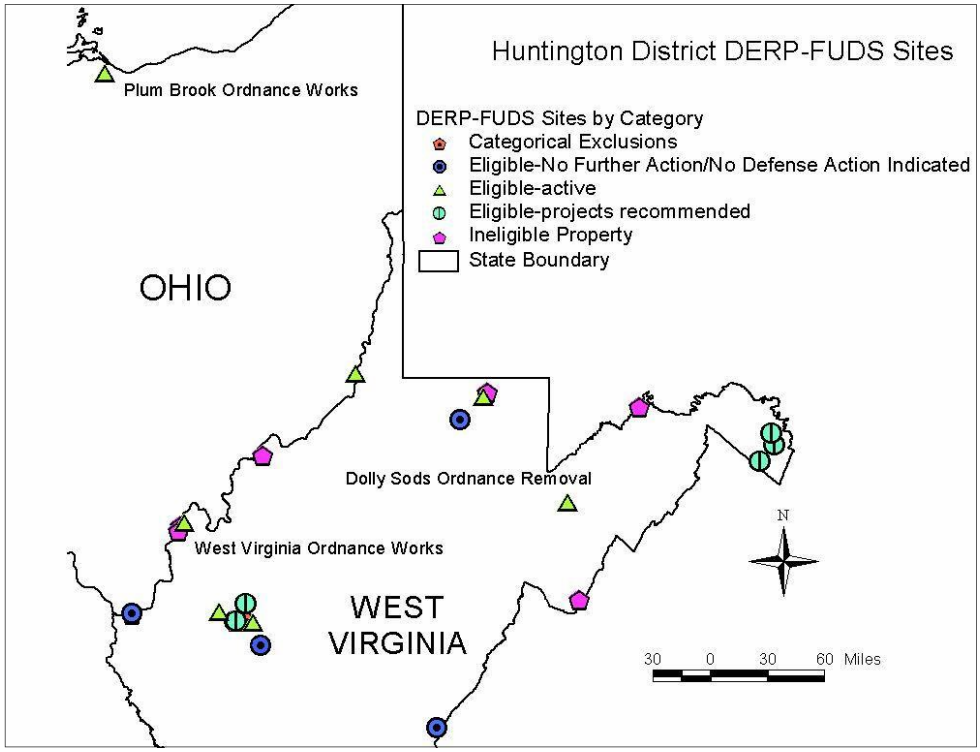
Beginning last November, the West Virginia Ordnance Works (WVOW) team entered into a facilitated partnering process. The team consists of personnel from the U.S. Environmental Protection Agency Region III (EPA), the West Virginia Department of Environmental Protection (WVDEP), the U.S. Army Corps of Engineers' Huntington (CELRH) and Nashville Districts (CELRN), and the IT Group (IT). Project managers and working-level staff comprise the Tier 1 team, while upper management from each of these organizations makes up the Tier 2 team. Versar provides facilitators for each team.

The facilitators have introduced the use of consensus agreement to document and at times push the group towards decisions. The first step was the selection of four consensus members who were identified as the decision makers for each of the primary agencies: Jack Potosnak, Remedial Project Manager, EPA; Warren Knotts, Project Manager, WVDEP; Rick Meadows, Project Manager, CELRH; and Kathy McClanahan, Technical Coordinator, CELRN. In order for the team to proceed, a decision must be approved by all four of the Tier 1 consensus members, or their alternates. Less complex decisions can be made by a simple "thumbs up" during meetings, while more complex decisions require consensus members to sign a document detailing the decision. Thus far, consensus members have signed three consensus agreements concerning additional sampling to fill data gaps at the Expanded Site Investigation Six (ESI-6) Motorpool/Maintenance Area, the Operable Unit One (OU-1) Burning Grounds cap extension, and the OU-5 Pond 13 "hot spot" removal (*OU-1 and OU-5 actions are detailed in articles elsewhere in this newsletter*). In addition, the team has made numerous other verbal consensus agreements that have been documented in team meeting minutes.

Tier 2 involvement has also aided in accelerating project closeout. Tier 2 is committed to assisting Tier 1 in overcoming potential roadblocks, searching for alternative solutions, and making resources available. Tier 2 is very pleased with Tier 1's performance and the use of a facilitator. Tier 1 has developed team ground rules and current and future goals and is developing into a synergetic team.

Defense Environmental Restoration Program Review

The Defense Environmental Restoration Program (DERP) was established by section 211 of the Superfund Amendments and Reauthorization Act of 1986 and is codified in Sections 2701-2707 of Title 10 of the United States Code. DERP addresses the removal and remedial clean-up activities at active sites under the Installation Restoration Program (IRP) and at Formerly Used Defense Sites (FUDS). Ordnance and Explosives (OE) and environmental response actions at sites that were contaminated while under the jurisdiction of the Department of Defense (DoD), but which subsequently have been transferred out of DoD control, are conducted under the Defense Environmental Restoration Program – Formerly Used Defense Sites (DERP-FUDS) program. Sites still under DoD control are conducted under the DERP-IRP program. DoD has delegated authority for executing OE response activities at FUDS to the U.S. Army Corps of Engineers (USACE) through Headquarters, Department of the Army (HQDA). The Huntington District has project management responsibilities for the following active projects:



- West Virginia Ordnance Works, Pt. Pleasant, WV
- Plum Brook Ordnance Works, Sandusky, OH
- Dolly Sods Wilderness and West Virginia Maneuver Area, Davis, WV
- Yeager Air National Guard, Charleston, WV
- Morgantown Ordnance Works, Morgantown, WV
- Marshall Army Chemical Plant, New Martinsville, WV

Restoration Advisory Boards: The Link Between Communities and Agencies

Restoration Advisory Boards, or RABs, serve as forums for discussion and exchange of information between agencies and affected communities. They provide the opportunity for stakeholders to have a voice and actively participate in the review of technical documents, to review restoration progress, and to provide individual advice to decision makers regarding restoration activities. There must be sufficient and sustained community interest to establish and maintain a RAB. Members are selected from the community by a community panel. Responsibilities of members include the following:

- Attend RAB meetings as required by the RAB operating procedures
- Provide individual advice and comments on restoration issues to decision makers
- Represent and communicate community interests and concerns to the RAB
- Act as a conduit for the exchange of information among the community, the USACE district(s), and environmental agencies regarding the restoration program
- Review, evaluate, and comment on documents and other such materials related to restoration activities
- Serve without compensation

June 2001 Restoration Advisory Board Meeting for West Virginia Ordnance Works, Point Pleasant, West Virginia

McClintic Wildlife Management Area Benefits From West Virginia Ordnance Works Activities

Three new ponds providing over 30 acres of aquatic habitat are finished at McClintic Wildlife Management Area, located five miles north of Point Pleasant, WV. McClintic contains the greatest variety of wildlife habitats to be found on any of West Virginia's Wildlife Management Areas. Approximately 600 acres of farmland, 900 acres or brushland, 160 acres of wetland and 1,100 acres of mixed hardwood forest combine to provide excellent hunting for deer, waterfowl, turkey, squirrel, rabbit, grouse, mourning dove, and woodcock. Warm water fishing is allowed in 35 of the 39 ponds, with bass and bluegill anglers enjoying the greatest success. Channel catfish and northern pike are stocked in several of the lakes.

The ponds mitigate the loss of approximately 13 acres of aquatic habitat at Pond 16 resulting from remediation efforts of the former West Virginia Ordnance Works. An active partnering environment with WV DEP, and West Virginia Department of Natural Resources, the owners and land managers, provided the necessary ingredients to ensure that the design of the site was in the best interest of the intended wildlife habitat. Pond 16 has been returned to its original state and Pond 7 and 11 were added. The new ponds range from shallow depths to seven feet. The ponds are designed as multiple use areas for the sustainment of fish and waterfowl.

Aerial View of Pond 7 and 11 After Completion

Department of Natural Resources will stock fingerlings of bass, catfish, and bluegill. Waterfowl will migrate to the area as soon as water is maintained in ponds. It will take approximately three seasons for the fish to grow large enough for productive fishing.

The site is accessible for the sportsman off of paved County Route 12, Dixie Road, within McClintic. There is off road parking in a gravel lot and the banks of the ponds will be mowed and maintained. The commitment of the principal parties ensured a quality sustainable product that will provide West Virginia with more protected wildlife habitat. West Virginia Ordnance Works is on the National Priorities List, but a drive through the McClintic Wildlife Management Area is comparable to driving through a state park. Through the use of various remediation techniques the site is being concurrently cleaned up while habitats are being renewed and strengthened for

WVOW Burning Grounds Caps To Be Extended

The West Virginia Ordnance Works (WVOW) Burning Grounds area is approximately 1200 feet by 1800 feet and is located approximately 500 feet west of the southern end of the TNT Manufacturing Area. The Burning Grounds area was used form 1942 to 1945 for the destruction of off-specification TNT. The Burning Grounds were designated part of Operable Unit One (OU-1).

Nitroaromatics were detected in soils and groundwater during investigations in the mid-1980s. A Record of Decision (ROD) was signed in 1987 that required flaming of TNT residue, installation of a 2-foot soil cover over the identified burning grounds, and removal and disposal of asbestos and asbestos-laden soil. Construction began in 1988. There are three soil covers in this area: East Burning Ground cap, West Burning Ground cap, and the Y-cap.

Long-term monitoring of this area began in 1993. A corrective action was performed in 1994 to ensure that the integrity of the caps is maintained and to extend the cap to cover an asbestos-contaminated area outside the existing caps. The caps are monitored quarterly under the site-wide operation and maintenance program. The five-year review revealed that the caps did not cover all nitroaromatic contamination. To remedy this, the WVOW Tier 1 team reached a consensus earlier this year to perform a corrective action to extend the existing caps to cover these relatively small areas. The cap extensions will be identical in construction to the existing caps, as required by the signed ROD. This plan was presented to the Restoration Advisory Board and other concerned citizens during a public meeting on June 26. This opened a 30-day public comment period. If there are no significant changes to the plan, the Corps intends to award a contract

Aerial View of Burning Grounds

Plum Brook Ordnance Works
The Past and Present

The Past

The former Plum Brook Ordnance Works (PBOW) encompasses over 9000 acres in Erie County Ohio. In the 1940s, under contract to the U.S. Army, the Trojan Powder Company manufactured 2,4,6 trinitrotoluene (TNT), dinitrotoluene (DNT), and pentolite. As a result of the manufacturing processes conducted on the property, contamination of the environment occurred.

Since 1983, several environmental investigations have been conducted and documented within the boundaries of the PBOW site. The reports published to date are summarized in the following table.

Former TNT manufacturing building

Report Title	Fieldwork Date	Report Date
Engineering Report for the Contamination Evaluation at the Former Plum Brook Ordnance Works	1989	March 1990
Plum Brook Station Assessment	1991	June 1991
Phase I Site Characterization of Disposal Area Three, PBS	1992	June 1992
Site Inspection Report, PBS	1993	January 1994
Records Review Report	1994 - 1995	April 1997
Red Water Ponds Focused Remedial Investigation	1994	April 1997
TNT Areas Site Investigation	1994	April 1997
Statewide Groundwater Investigation	1994	April 1997
Site Investigation of the G-8 Burning Ground	1996	March 1997
Site-wide Groundwater Investigation	1996	Sept. 1997
Site Investigation Reservoir No. 2 Burning Ground Additional Burning Ground Wastewater Disposal Plant No. 2 Powerhouse No. 2 Ash Pit	1996	Dec. 1997
Site Investigation of Acid Areas	1998	Dec. 1998
Risk Assessment and Direct Push Investigation of Red Water Ponds Areas	1998	August 2000
TNT Area B Remedial Investigation	1998	August 2000
Summary Report – Site-wide Groundwater Monitoring	1997 - 1998	June 1999
Limited Site Investigations Pentolite Area Waste Lagoons TNT Rail Car Loading Area Wastewater Treatment Plants No. 1 and 3 Ash Pits No. 1 and 3 Garage Maintenance Area (Locomotive Building Area) Lower Toluene Tank	1999	July 2000

Present

At the present time there are several ongoing investigations at PBOW, which includes the Red Water Ponds Area, TNT Area B, and TNT Areas A and C. Also presently, USACE has begun a full-scale Site-wide Groundwater Investigation.

Red Water Ponds Area

A 1983 Preliminary Assessment (PA) identified a potential for contamination form nitroaromatics, heavy metals, and petroleum by-products. The Ecological Risk Assessment was completed and submitted to Ohio EPA for review in June 2001.

Former locomotive shop

Story continued on Page 6

Plum Brook Ordnance Works (Continued)
The Past and Present

TNT Areas A and C

A 1991 PA identified a potential for contamination of sediments, soils, surface and groundwater with nitroaromatics and residuals from TNT manufacturing. An ecological site-walk through was conducted in the fall of 2000. The Final Human Health and Ecological Risk Assessment was delivered in March 2001.

Former wastewater treatment plant facility

TNT Area B

A 1991 PA identified a potential for contamination of sediments, soil, surface and groundwater with nitroaromatics and residuals from TNT manufacturing. The Final Remediation Investigation (RI) Report was submitted for review and expect comments from Ohio EPA in August 2001.

For a review of future PBOW plans and activities, see page 9

Site-wide Groundwater

Huntington USACE, Nashville USACE, IT Group and Ohio EPA kicked off the full-scale site-wide groundwater monitoring program on June 28, 2001. The objective of the monitoring program is to evaluate the bedrock groundwater for contamination from historical TNT manufacturing.

The network of wells to be installed on the PBOW property will also provide data as to the quality of groundwater flowing onto the site, as well as the groundwater flowing off site, and any contaminants, if present, that may be migrating off site.

Additional information on current PBOW activities can be obtained by contacting Richard Meadows, Project Manager, in the Huntington District Corps office, Phone 304/ 529-5388, or call the PBOW information hotline at 1-800-822-8413.

The Incredible, Shrinking NPL Site

The National Priorities List (NPL) was established by the U.S. Environmental Protection Agency (EPA) to clean up the most environmentally-contaminated sites in the country. Although the hazard ranking system alone did not earn West Virginia Ordnance Works (WVOW) a high ranking, it was nominated by the state for inclusion on the NPL in 1983. The original WVOW NPL site covered about 8300 acres. In 1994, the area was reduced to about 2800 remaining acres where the possibility of contamination was thought to exist. The West Virginia Division of Natural Resources (WVDNR) manages most of this land as the Clinton F. McClintic Wildlife Management Area (MWMA). The federal government and private landowners hold the remaining portions of the site.

Prior to 1995, EPA policy required that an entire site be remediated before it could be removed from the NPL. Due to the size and complexity of the WVOW site, this could have tied up the 2800 acres for many more years. Now, EPA encourages removal of portions of sites or media from the NPL boundary in order to make them available for productive use. The first two WVOW areas slated for deletion are Expanded Site Investigation Three (ESI-3) Tract 21 and ESI-5 Refueling Depot. EPA, the West Virginia Department of Environmental Protection (WVDEP) and the U.S. Army Corps of Engineers (USACE) signed decision documents in September 2000 declaring that no further action is necessary to remediate these areas. In order to delete areas from the NPL boundary, the team will complete the following steps for each area:

- Gain approval from WVDEP and EPA.
- Complete the partial NPL site deletion data collection form and provide hardcopies and electronic copies of this data to EPA. This includes geographic data, the party requesting the deletion, and a site narrative.
- Publish a Notice of Intent to Delete (NOID) with a site narrative in the Federal Register.
- Sufficiently address any comments that arise from NOID publication.

When this process is complete, the NPL boundary can be adjusted accordingly. The WVOW team believes that several more areas are prime candidates for de-listing in the near future, including the Operable Unit 11 (OU-11) Sellite Plant and the ESI-9 Classification Yards. As no-further-action decision documents are signed or remedial actions are completed, the NPL boundary will be whittled

"Hot Spot" Removal Will Save Money at WVOW's Pond 13

The Record of Decision (ROD) for Operable Unit Two (OU-2) at West Virginia Ordnance Works (WVOW) was signed by the U.S. Environmental Protection Agency (EPA) and the Department of Defense (DoD). This ROD originally required the U.S. Army Corps of Engineers (USACE) to cap the Pond 13 wet well area and treat groundwater in this area. The wet well area would have been covered with two feet of soil and the groundwater treated by a carbon absorption system before entering Pond 13. However, the Tier 1 team sought a better, cheaper alternative.

The team discovered that nitroaromatic contamination is confined to one small, subsurface area. Although the subsurface area complies with the ROD, its affect on groundwater prevents compliance with the ROD's groundwater standards. This source appears to feed contamination into the groundwater, although at low levels. Instead of capping the entire area, the team decided to remove this "hot spot" of nitroaromatic-contaminated material. Because this would remove the source of contamination, the team elected not to use the carbon absorption system to treat the groundwater. Operation and maintenance costs for this area were virtually eliminated, because there would not be a cap to maintain or a treatment system to operate. Removing the hot spot in lieu of capping also reduces the initial cost.

One new point of compliance well and one new source well will be installed and sampled regularly to verify that significant levels of nitroaromatic contamination are not moving away from the site after the removal is complete. Additional source area wells may be installed, if necessary. The team will also put institutional controls in place to prohibit the use of groundwater in this area.

The team signed a consensus agreement on March 8. The action was announced to the Restoration Advisory Board (RAB) and other concerned community members during a public meeting on June 26. This opened a 30-day public comment period. If there are no significant changes to the plan, the Corps intends to award a contract for

View of Pond 13 and area

Additional information on current WVOW activities can be obtained by contacting Richard Meadows, Project Manager, in the Huntington District Corps office. Phone 304/ 529-5388.

What's In A Name?

In dealing with restoration of Formerly Used Defense Sites, a great deal of data is acquired. A wide array of acronyms are used to make written documentation easier. For readers unfamiliar with these acronyms, they can be a hindrance. The following is a partial list of the acronyms used in dealing with Formerly Used Defense Sites. Many of the acronyms listed can be found within this newsletter.

DERP	Defense Environmental Restoration Plan
FUDS	Formerly Used Defense Sites
DoD	Department of Defense
WVOW	West Virginia Ordnance Works
PBOW	Plum Brook Ordnance Works
EPA	Environmental Protection Agency
WVDEP	West Virginia Department of Environmental Protection
WVDNR	West Virginia Division of Natural Resources
OEPA	Ohio Environmental Protection Agency
USACE	United States Army Corps of Engineers
HQDA	Headquarters, Department of the Army
CELRH	Corps of Engineers, Huntington District
CELRN	Corps of Engineers, Nashville District
NASA	National Aeronautical Space Administration
ESI	Expanded Site Investigation
OU	Operable Unit
AOC	Area of Concern
RAB	Restoration Advisory Board
TNT	Trinitrotoluene
DNT	Dinitrotoluene
SVOC	Semi-volatile Organic Hydrocarbon
PCB	Polychlorinated Biphenyl
OE	Ordnance and Explosives
PA	Preliminary Assessment
LSI	Limited Site Investigations
RI	Remediation Investigation
NPL	National Priority List
NOID	Notice of Intent to Delete
ROD	Record of Decision
LTM	Long Term Monitoring
POC	Point of Compliance

Improving Wetlands While Cleaning Groundwater At WVOW

In order to clean up groundwater contamination caused by TNT production during World War II, the U.S. Army Corps of Engineers constructed two nearly-identical groundwater extraction and treatment plants at WVOW in 1997. After a six-month operation period, the plants were shut down because they could not sufficiently treat naturally-occurring metals in the groundwater. The team assessed many alternatives, but finally settled on using wetlands treatment to remove metals from the plants' treated effluents.

Red Water groundwater treatment building

The Red Water Treatment Plant was re-started on September 5, 2000 and began a 12-week wetlands discharge trial operation period. There were few mechanical or electrical problems with the plant. This plant discharges into a sedimentation basin below the Red Water Reservoir caps. Although this pond had brimmed with wildlife and plants several years earlier, it was dry before the treatment plant started. However, the discharge of over 35 million gallons of treated water into the basin has re-established this area as prime wetland habitat. Sampling results have shown that the wetland reduces metals to non-detect or to below discharge criteria established by the state, proving that the treatment system is benefiting the wetlands.

The Yellow Water Treatment Plant had several electrical problems, and was not re-started until November 29, 2000. Also, the effluent was re-routed so that it would flow through a wet weather ditch for several thousand feet for treatment prior to entering Mill Run Creek. Although sampling has shown that the plant's effluent is in compliance, some chemicals are "picked up" by the water before it enters Mill Run Creek. One of these is ammonia, for which the Corps has identified some possible sources in the area unrelated to WVOW. Algae growth in the unshaded reaches of the ditch reduces ammonia to below detection limits, while it increases further downstream. So far, this plant has discharged over 25 million gallons of treated water.

Red Water outfall to sedimentation basin

Red Water sedimentation basin

Demolition of Former Sellite Plant To Benefit West Virginia

The Corps demolished the former WVOW Sellite Plant during early 2000. The property is slated to be transferred to the West Virginia Department of Agriculture later this year for addition to the adjoining State Farm Museum. During demolition, the Corps' contractor disposed of 752 tons of asbestos-containing material and 141 tons of other demolition debris plus recycled 28 tons of metal. They also disposed of an additional 141 tons of demolition debris.

***BEFORE**: View of sellite building*

In a cost-saving effort that also improved the site, cinder blocks from the building were crushed on-site to improve the access road. This reduced the cost of the project by over $100,000 versus constructing an on-site landfill or hauling the block off for disposal. With this work complete, the property is much safer and can soon be transferred to the state for beneficial re-use.

***AFTER**: Same view of site after Demolition completion*

Plum Brook Ordnance Works
The Future

FUTURE

Limited Site Investigations (LSI) were conducted in 2000 for the following sites: Ash Pits Nos. 1 and 3; Garage Maintenance Area; TNT Loading Area; Wastewater Treatment Plant (WWTP) Nos. 1 and 3; Lower Toluene Tank Area; and Pentolite Waste Area Lagoons. Final Reports on the LSIs were submitted in September 2000.

The RAB is an integral part of restoration activities

Recommendations of "No Further Action" (NFA) were made for the TNT Loading Areas, Pentolite Area Waste Lagoon, and the Lower Toluene Tanks. At the remaining sites however, future investigations to determine the extent of the contamination were recommended.

Wastewater Treatment Plant Nos. 1 and 3

The findings of the LSI completed in July of 2000 identified TNT in Wastewater Treatment Plant (WWTP) No. 1 and PCBs and SVOCs in WWTP No. 3. The recommendation for this site is to initiate a Full Site Investigation in FY04 based on funding availability.

Red Water Ponds Area

Ash Pits Nos. 1 and 3

The findings of the LSI completed in July 2000 identified a potential for contamination of surface and groundwater with heavy metals. Although the LSI indicated concentrations of heavy metals, the concentrations detected may be due to the high background levels of metals. The recommendation for this site is to initiate a Full Site Investigation in FY04 based on funding availability.

Garage Maintenance Area

The findings of the LSI completed in July 2000 identified low levels of arsenic in the locomotive shop sump, Aroclor 1260, a PCB, in the sludge pit, and DNT at the rail car washing area. The recommendation for this site is to initiate a Full Site Investigation in FY05 if funding is available.

COMMUNITY RELATIONS

In March 2001, Huntington District USACE conducted a Community Survey and Poster session at the Sandusky Mall. Booth visitors included residents from surrounding communities as well as the immediate Erie County area. Not everyone who visited the display was familiar with the PBOW site or the on going environmental restoration activities. USACE representatives had the opportunity to describe the manufacturing processes and the resultant contamination and the role of USACE in the site remediation. Other visitors provided bits of history on the day-to-day operations during the time of ordnance manufacturing. Several had either worked at the facility and/or had a relative who had worked at the former TNT manufacturing site. In August of 2001, USACE will be conducting another Poster Session at the Erie County Fair in Sandusky, Ohio.

USACE contractor reviews placement of bedrock wells with OEPA and NASA

The PBOW website continues to be updated to provide the public with the most current information regarding future meetings, meeting minutes and Quarterly Fact Sheets. The public is encouraged to visit the website at http://www.lrh.usace.army.mil/pm/pbow

USACE is interested in hearing from community members who may have knowledge of activities at PBOW, which may include personal experience, photographs or newspaper articles that may provide additional insight into historical activities at the site. The public is invited to contact Ms. Lisa Humphreys or Mr. Frank Albert at the Huntington District with any information. The Huntington District PBOW Hotline is **1-800-822-8413**.

RESTORATION ADVISORY BOARD

The PBOW Restoration Advisory Board (RAB) continues to meet to discuss the latest findings from the ongoing investigations at the site. The RAB is an integral part of the restoration activities and the members are dedicated to their role in the restoration of the site and future uses of the property.

PBOW POINT OF CONTACT

Questions regarding the PBOW activities may be directed to Mr. Richard Meadows, Plum Brook Ordnance Works Project Manager, USACE Huntington District, telephone (304) 529-5388, or e-mail Mr. Meadows at Richard.L.Meadows@usace.army.mil.

For more information on any of these projects, contact:
Mr. Rick Meadows
U.S. Army Corps of Engineers
Huntington District
502 Eighth Street
Huntington, WV 25701-2070
Attn: CELRH-PM-P
(304) 529-5388 (phone)
(304) 529-5715 (fax)
Richard.L.Meadows@usace.army.mil

United States Army Corps of Engineers
Huntington District
502 Eighth Street
Huntington, WV 25701-2070